

Application/Control Number: 10/049,752

Page 2

Art Unit: 2821

CLMPTO

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1. An automated optical inspection system (10) comprising:

four CCD cameras (12, 14, 16, 18) spaced from each other and arranged generally north, east, south and west at an angle above a generally rectangular area (15) upon which an item to be inspected may be placed, wherein a width of the area (15) is larger than a height of the area (15), each of said cameras (12, 14, 16, 18) having an optical axis (20) and a field of view (22), the fields of view (22) of said cameras (12, 14, 16, 18) being generally rectangular, wherein a width of the field of view (22) is larger than a height of the field of view (22);

characterized in that a pair of said cameras (12, 16) are positioned generally opposite each other, each having the width and height of their fields of view (22) generally in the same direction as the width and height of the area (15), respectively, and the other pair of said cameras (14, 18) are positioned generally opposite each other and generally perpendicular to the first-mentioned pair of cameras (12, 16), each having the width and height of their fields of view (22) generally in the same direction as the height and width of the area (15), respectively.

2. The system (10) according to claim 1 wherein the fields of view (22) of both pairs of said cameras (12, 14, 16, 18) overlap generally at a common area (15).

3. (Amended) The system (10) according to claim 1 wherein the fields of view (22) of said cameras (12, 14, 16, 18) each have a width/height ratio of about 4/3.

4. (Amended) The system (10) according to claim 1 and further comprising a fifth camera (19) positioned generally atop said generally rectangular area (15).

5. The system (10) according to claim 4 wherein the field of view (22) of said fifth camera (19) overlaps the fields of view of the other cameras (12, 14, 16, 18) generally at a common area (15).

6. The system (10) according to claim 4 wherein said fifth camera (19) comprises an array of cameras (19A, 19B, 19C, 19D), and wherein the combined field of view (22) of the array generally corresponds to said generally rectangular area (15).